

WHAT IS CLAIMED IS:

1. A radio system comprising:

a portable device that may be carried by a user; and

a stationary device for wirelessly communicating with said portable device, wherein

said portable device operates such that when said portable device receives first signals from said stationary device, said portable device sends second signals representative of reception intensity data of the first signals back to said stationary device, and

said stationary device sends the first signals from a plurality of stationary-device side antennae located at different positions respectively, and when said stationary device receives the second signals from said portable device through the respective stationary-device side antennae, said stationary device determines a position of said portable device by using the reception intensity data of the first signals included in the respective second signals.

2. A radio system comprising:

a portable device that may be carried by a user and;

a stationary device for wirelessly communicating with said portable device, wherein

said stationary device sends first signals from a plurality of stationary-device side antennae located at different positions, and

said portable device operates such that when said portable device receives the first signals from said stationary-device side antennae of said stationary device, said portable device determines a position of said portable device by using reception intensity data of the respective first signals, and sends a second signal representative of the result of the position determination back to said stationary device.

3. A radio system comprising:
a portable device that may be carried by a user and;
a stationary device for wirelessly communicating with said portable device, wherein

said portable device sends first signals to said stationary device, and

said stationary device receives the first signals by use of a plurality of stationary-device side antennae located at different positions, and determines a position of said portable device by using reception intensity data of the respective first signals.

4. The radio system according to claim 1, wherein said stationary device varies the setting of the amplitude relations between transmission output powers of the first signals from said respective stationary-device side antennae and sends first signals, and said stationary device determines the position of said portable device by using the reception intensity data obtained for each said setting.

5. The radio system according to claim 3, wherein said stationary device receives the first signals by varying the setting of the magnitude relations between the reception intensity data of the first signals from the stationary-device side antennae, and determines the position of said portable device by using the reception intensity data obtained for each setting.

6. The radio system according to claim 1, wherein said stationary device determines the position of said portable device as viewed in a direction in which paired antennae of the stationary-device side antennae are arrayed by using the magnitude relations between the reception intensity data of the paired antennae.

7. The radio system according to claim 1, wherein said stationary device is mounted on a vehicle, and said stationary device and/or said portable device judges from the position determination result that said portable device is inside or outside said vehicle, that a user carrying said portable device gets on said vehicle, or that said user gets off said vehicle.

8. The radio system according to claim 7, wherein said stationary device wirelessly communicates with said portable device to verify that said portable device is a predetermined one, and automatically executes a control process for realizing a predetermined operation of an object to be controlled in said vehicle, and when judging that the user carrying said portable device got on the vehicle, said stationary device selects a kind of the controlled object or control contents of the controlled object.

9. The radio system according to claim 8, wherein the controlled object includes a device for locking and unlocking the doors of the vehicle, and the control process includes a signal output for causing said device to operate for locking or unlocking.

10. The radio system according to claim 7, wherein said stationary device wirelessly communicates with said portable device to verify that said portable device is a predetermined one, and automatically executes a control process for realizing a predetermined operation of an object to be controlled in said vehicle, and when judging that the user carrying said portable device got on the vehicle, said stationary device and/or said portable device selects such transmission output power of the wireless communication for the verification as to reduce a communication range.

11. The radio system according to claim 10, wherein the transmission output power is selected to change the wireless communication range for the verification from a relatively broad remote control range including positions outside the vehicle, which are remote from the vehicle by a predetermined distance, to a narrow range within the vehicle.